

Supplementary appendix

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Supplemental materials 1

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Supplemental materials 2

Definitions of fever clinics patients, suspected and confirmed patients:

The diagnostic criteria for COVID-19 are based on the latest version of guideline for the diagnosis and treatment of 2019 novel coronavirus-infected pneumonia issued by the National Health Commission of China. (Lin L, Li TS. [Interpretation of "Guidelines for the Diagnosis and Treatment of Novel Coronavirus (2019-nCoV) Infection by the National Health Commission (Trial Version 5)". Zhonghua yi xue za zhi 2020;100(0):E001 doi: 10.3760/cma.j.issn.0376-2491.2020.0001 [published Online First: Epub Date]].)

A, Epidemiological exposure history (any one of the following items):

- (1) travel history or residence history in epidemic areas (a country, area or territory having reported local transmission of COVID-19 disease), or other communities with reported cases within 14 days before onset;
- (2) history of contact with a novel coronavirus (nucleic acid positive) infected person within 14 days before onset;
- (3) exposure to patients with fever or respiratory symptoms from epidemic areas, or from communities where cases have been reported within 14 days before onset;
- (4) cluster onset.

B, Relevant clinical abnormalities (any two of the following items):

- (1) fever with or without respiratory symptoms;
- (2) normal or reduced white blood cells count, or reduced lymphocytes count;
- (3) chest imaging features of the viral pneumonia.

Definition of patients to fever clinics: Patients with fever (body temperature $>37.5^{\circ}\text{C}$); Or patients with pulmonary symptoms and epidemiological exposure history (one of A).

Definition of Suspected cases: A suspected case is a patient with A and B, or if there is no clear epidemiological history, the patient should meet three items of clinical abnormalities (all of B).

Definition of Confirmed cases: A confirmed case is a person with positive for the SARS-CoV-2 by the RT-PCR test in respiratory or blood specimens on the basis of

being suspected; Or highly homologous with known novel coronavirus by gene sequencing in respiratory or blood specimens on the basis of being suspected.

Supplemental materials 3

Supplemental Table S1. Clinical characteristics of all subjects in our study and previous studies.

	Total	Confirmed patients	Excluded patients	P-value	Huang et al. (18)	Chen et al. (19)	Wang et al. (20)	Xu et al. (21)	Chang et al. (22)
N	1004	188	816		41	99	138	62	13
Demographics									
Age, yrs	40·0 (26·0)	46·0 (24·0)	39·0 (27·0)	0·0034	49 (41-58)	55·5 (13·1)	56 (42-68)	41 (32-52)	34 (34-48)
Female, n (%)	480 (48%)	94 (50%)	386 (47%)	0·5047	11(27%)	32 (32%)	63 (45·7%)	27/62 (44%)	
BMI, Kg/m ²	23·1 (3·6)	23·7 (3·4)	22·8 (3·7)	0·8705					
>= 24, %	389 (39%)	73 (39%)	316 (39%)	0·9789					
Smoking history, %	147 (15%)	27 (14%)	120 (15%)	0·9042					
Symptoms, n (%)									
Fever	843 (84%)	159 (85%)	684 (84%)	0·8003	40 (98%)	82 (83%)	136 (98·6%)	48 (77%)	
Highest body temperature, °C	38·1 (0·7)	38·1 (0·7)	38·2 (0·8)	0·0145					
>=38·5, %	267 (32%)	33 (21%)	234 (34%)	0·0019	>38 32 (78%)			> 38 26 (42%)	
Chill	71 (7%)	7 (4%)	64 (8%)	0·0470					
Cough	622 (62%)	116 (62%)	506 (62%)	0·9376	31 (76%)	81 (82%)	82 (59·4%)	50 (81%)	6 (46·2%)
Sore throat	176 (18%)	36 (19%)	140 (17%)	0·5172		5 (5%)			
Nasal congestion	40 (4%)	8 (4%)	32 (4%)	0·8329					8 (61·5%)
Rhinorrhoea	68 (7%)	9 (5%)	59 (7%)	0·2294					1 (7·7%)
Sneezing	4 (0%)	2 (1%)	2 (0%)	0·1612					
Shortness of breath	63 (6%)	12 (6%)	51 (6%)	0·9460	Dyspnoea 22 (55%)	31(31%)	43 (31·2%)		
Hemoptysis	8 (1%)	1 (1%)	7 (1%)	1·0000	2/39 (5%)	2 (2%)		2/62 (3%)	
Chest pain	23 (2%)	4 (2%)	19 (2%)	1·0000		2 (2%)			

	Total	Confirmed patients	Excluded patients	P-value	Huang et al. (18)	Chen et al. (19)	Wang et al. (20)	Xu et al. (21)	Chang et al. (22)
Fatigue	250 (25%)	63 (34%)	187 (23%)	0·0025	Myalgia or fatigue 18 (44%)		96 (69·6%)	32(52%) Fatigue or Myalgia	
Headache	84 (8%)	23 (12%)	61 (7%)	0·0336	3/38 (8%)	8 (8%)	9 (6·5%)	21 (34%)	3 (23·1%)
Abdominal pain	11 (1%)	0 (0%)	11 (1%)	NA			3 (2·2%)		
Diarrhea	43 (4%)	6 (3%)	37 (5%)	0·4123	1/38 (3%)		14 (10·1%)	3 (8%)	
Nausea or vomiting	17 (2%)	1 (1%)	16 (2%)	0·2912		1/99 (1%)	19 (13·8)		
Poor appetite	79 (8%)	24 (13%)	55 (7%)	0·0057					
Myalgia	141 (14%)	36 (19%)	105 (13%)	0·0254		11/99 (11%)	48 (34·8%)		3 (23·1%)
Onset to suspicion, day	1 (3)	2 (3)	1 (2)	0·6057					
Onset to confirmation, day	2 (4)	3 (4)	3 (3)	0·2482					
Signs									
Respiratory rate, /min	19 (2)	20 (3)	19 (2)	0·0986					
Heart rate, /min	86 (17·3)	88 (17)	86 (18)	0·2206					
Auscultation, n (%)				0·3455					
Dry rales	6 (1%)	1 (1%)	5 (1%)						
Moist rales	24 (2%)	2 (1%)	22 (3%)						
No abnormalities	973 (97%)	185 (98%)	788 (97%)						
Comorbidities, n (%)									
Hypertension	80 (8%)	23 (12%)	57 (7%)	0·0166	6/41 (15%)		43 (31·2%)	5 (8%)	
Coronary heart disease	19 (2%)	11 (6%)	8 (1%)	<0·0001			20 (14·5%)	1 (2%)	
Diabetes	34 (3%)	10 (5%)	24 (3%)	0·1041	8/41 (20%)	13 (13%)	14 (10·1%)	1(2%)	
COPD	18 (2%)	4 (2%)	14 (2%)	0·9371	1/41 (2%)	1 (1%)	4 (2·9%)	1 (2%)	
Asthma	10 (1%)	2 (1%)	8 (1%)	1·0000					

	Total	Confirmed patients	Excluded patients	P-value	Huang et al. (18)	Chen et al. (19)	Wang et al. (20)	Xu et al. (21)	Chang et al. (22)
Bronchiectasis	5 (0%)	1 (1%)	4 (0%)	1·0000					
Malignancy	16 (2%)	0 (0%)	16 (2%)	NA	1/41 (2%)	1 (1%)	10 (7·5%)		
Chronic liver disease	3 (0%)	0 (0%)	3 (0%)	NA	1/41 (2%)		4 (2·9%)	17 (11%)	
Connective tissue disease	2 (0%)	0 (0%)	2 (0%)	NA					
Exposure history within 14 days, n (%)									
Recently been to epidemic regions	324 (32%)	95 (51%)	229 (28%)	<0·0001					
Contacted with COVID-19 patients or people from epidemic regions	171 (17%)	63 (34%)	108 (13%)	<0·0001				23 (37%)	
Clustering onset	147 (15%)	54 (29%)	93 (11%)	<0·0001				21 (34%)	

BMI: body mass index, COPD: chronic obstructive pulmonary disease.

Supplemental Table S2. Radiographic and laboratory findings of all patients in our study and previous studies.

	Confirmed patients	Excluded patients	P-value	Normal range	Huang et al. (18)	Chen et al. (19)	Wang et al. (20)	Xu et al. (21)	Chang et. (22)
Radiologic characteristic									
Type									
nodule	20 (11%)	69 (10%)	0.9272						
GGO	100 (53%)	204 (31%)	<0.0001						
Patchy shadow	100 (53%)	382 (58%)	0.2798						
GGO and Patchy shadow coexist	53 (28%)	80 (12%)	<0.0001						
Site									
Bilateral, (%)	107 (57%)	245 (37%)	<0.0001		40 (98%)	74 (75%)	138 (100%)	52 (84%)	
Number of lobes affected			<0.0001						
1	71 (38%)	344 (52%)							
2	36 (19%)	160 (24%)							
≥3	81 (43%)	148 (22%)							
Laboratory results									
Blood cell count									
RBC, ×10 ¹² /L	4.7 (0.8)	4.6 (0.8)	0.0261	4.3-5.8					
WBC, ×10 ⁹ /L	5.8 (3.1)	7.2 (3.0)	0.0053	3.5-9.5	6.2 (4.1-10.5)	7.5 (3.6)	4.5 (3.3-6.2)	4.7 (3.5-5.8)	5.83 (2.32)
Neutrophil count, ×10 ⁹ /L	3.9 (2.3)	4.7 (2.7)	<0.0001	2-7.7	5.0 (3.3-8.9)	5.0 (3.3-8.1)	3.0 (2.0-4.9)	2.9 (2.0-3.7)	3.67 (1.71)
PLT%	66.4 (14.4)	67.8 (18.8)	0.0803	50-70					
Lymphocyte count, ×10 ⁹ /L	1.3 (0.8)	1.5 (1.0)	0.0048	0.8-4.0	0.8 (0.6-1.1)	0.9 (0.5)	0.8 (0.6-1.1)	1.0 (0.8-1.5)	1.58 (0.653)
CD8 ⁺ ×10 ⁹ /L, (%)	25 (14%)	64 (9%)	0.0350					<1 26 (42%)	
PLT%	24.1 (13.0)	22.9 (16.3)	0.7672	20-40					

	Confirmed patients	Excluded patients	P-value	Normal range	Huang et al. (18)	Chen et al. (19)	Wang et al. (20)	Xu et al. (21)	Chang et. (22)
PLT, ×10 ⁹ /L	176·0 (75·0)	204·0 (97·5)	<0·0001	125-350	164·5 (131·5–263·0)	213·5 (79·1)	163 (123-191)	176·0 (135·8-215·5)	199 (72·5)
Hb, g/L	138·5 (21·3)	140·0 (22·0)	0·5355	130-175	126·0 (118·0–140·0)	129·8 (14·8)		137 (128·8-152·3)	147 (12·1)
Blood biochemistry									
Albumin, g/L	40·4 ± 3·5	41·0 ± 5·9	0·3966	32-48	31·4 (28·9–36·0)	31·6 (4·0)			
Globulin, g/L	31·9 ± 7·5	29·8 ± 6·4	0·1186	20-45					
ALT, U/L	33·2 (15·2)	25·0 (23·0)	0·4217	10-49	32·0 (21·0–50·0)	39·0 (22·0–53·0)	24 (16-40)	22 (14-34)	
AST, U/L	27·0 (10·0)	26·0 (13·0)	0·1804	0-40	34·0 (26·0–48·0)	34·0 (26·0–48·0)	31 (24-51)	26 (20-32)	
Creatinine, μmol/L	61·0 (22·4)	72·0 (32·0)	0·0130	53-97	74·2 (57·5–85·7)	75·6 (25·0)	72 (60-87)	72 (61-84)	
LDH, U/L	342·0 (332·0)	480·0 (260·0)	0·0159	120-246	286·0 (242·0–408·0)	336·0 (260·0–447·0)	261 (182-403)	205 (184-260·5)	
Blood urea nitrogen, mmol/L	4·2 (2·2)	4·5 (2·3)	0·9869	3·2-8·2					
K ⁺ , mmol/L	3·9 (0·3)	3·9 (0·7)	0·1118	3·5-5·5	4·2 (3·8–4·8)			3·7(3·5-3·9)	
Na ⁺ , mmol/L	138·9 (3·6)	138·0 (5·9)	0·1898	132-146	139·0 (137·0–140·0)			139(127-141)	
Cl ⁻ , mmol/L	101·3 (3·2)	101·0 (4·2)	0·6967	99-109					
Ca ²⁺ , mmol/L	2·2 (0·2)	2·3 (0·3)	0·3387	2·18-2·6					
GLU, mmol/L	6·2 (2·0)	5·4 (1·4)	0·9051	4·1-5·9		7·4 (3·4)			
Cardiac enzyme									
BNP, pg/ml	39·5 (51·5)	36·6 (133·6)	0·5524	0-125					
CK, IU/L	73·0 (71·5)	71·0 (77·0)	0·8352	32-294	132·5 (62·0–219·0)	85·0 (51·0–184·0)	92 (56-130)	69·0 (40·5-101·0)	
CK-MB, IU/L	9·5 (12·7)	8·7 (13·6)	0·4158	0-25			14 (10-18)		

	Confirmed patients	Excluded patients	P-value	Normal range	Huang et al. (18)	Chen et al. (19)	Wang et al. (20)	Xu et al. (21)	Chang et. (22)
Inflammatory indicators									
CRP, mg/L	13.4 (27.3)	10.0 (33.5)	0.2832	<5		51.4 (41.8)			14.7 (10.2)
ESR, mm/h	43.5 (72.3)	16.0 (34.0)	0.0031	0-15		49.9 (23.4)			
PCT, ng/ml	0.04 (0.04)	0.05 (0.05)	0.0202	<0.05	0.1 (0.1-0.1)	0.5 (1.1)		0.04 (0.03-0.06)	0.187 (0.0633)
Blood Gas Analysis									
PH	7.4 ± 0.05	7.4 ± 0.05	0.2750	7.35-7.45					
PaO ₂ , mmHg	78.8 (73.0)	78.8 (24.6)	0.9722	80-100				90 (80-105)	
PaCO ₂ , mmHg	39.5 (14.3)	36.9 (6.6)	0.093	35-45					
SaO ₂ , %	97.0 (4.2)	96.3 (3.8)	0.3716	94%-100%					
Coagulation function									
APTT, s	33.7 (8.9)	30.6 (8.7)	0.0880	25.1-36.5	27.0 (24.2-34.1)	27.3 (10.2)	31.4 (29.4-33.5)		
D-dimer, mg/L	0.36 (0.40)	0.39 (0.75)	0.0847	<0.2	0.5 (0.3-1.3)	0.9 (0.5-2.8)	203 (121-403)	0.2 (0.2-0.5)	

GGO: ground glass opacity; WBC: white blood cell; L: lymphocyte; PLT: platelet; ALT: alanine aminotransferase; LDH: lactate dehydrogenase; AST: aspartate aminotransferase; GLU: glucose; CK: creatinine kinase; CK-MB: creatine kinase isoenzyme-MB; ESR: erythrocyte sedimentation rate; PCT: procalcitonin; CRP: C-reactive protein; RBC: red blood cell; N: neutrophil; Hb: hemoglobin; BNP: brain natriuretic peptide; APTT: activated partial thromboplastin time.

Supplemental Table S3. Sensitivity analysis results of the independent risk factors associated with the diagnosis of COVID-19

	OR	95%CI	P
Exposure history	4.25	2.83-6.39	<0.0001
Fatigue	1.40	1.01-2.12	0.0116
WBC < $4 \times 10^9/L$	2.50	1.38-4.55	0.0027
Lymphocyte < $0.8 \times 10^9/L$	1.94	1.07-3.52	0.0292
GGO in chest imaging	2.16	1.47-3.15	0.0001
Bilateral lobes affected	1.51	1.03-2.22	0.0332

GGO: ground glass opacity; WBC: white blood cell;